

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
19 May 2005 (19.05.2005)

PCT

(10) International Publication Number
WO 2005/045122 A1

(51) International Patent Classification⁷: **D06M 11/73**

(21) International Application Number:
PCT/US2004/037076

(22) International Filing Date:
4 November 2004 (04.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/517,128 4 November 2003 (04.11.2003) US

(71) Applicant (for all designated States except US): **DREXEL UNIVERSITY** [US/US]; 32nd and Chestnut Streets, Philadelphia, PA 19104 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KO, Frank, K.** [US/US]; 5144 Castor Avenue, Philadelphia, PA 19124-1741 (US). **SUKIGARA, Sachiko** [JP/JP]; Joyful Kobari A2-3,, 9-9 4cho-me Kobari Niigata, Niigata, 950-2022 (JP). **GANDHI, Milind** [IN/US]; 3900 Chestnut Street, Apt. 226, Philadelphia, PA 19104 (US). **AYUTSEDE, Jonathan** [NG/US]; 3601 Powelton Avenue #B3, Philadelphia, PA 19104 (US).

(74) Agents: **LICATA, Jane, Massey et al.**; Licata & Tyrrell P.C., 66 E. Main Street, Marlton, NJ 08053 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ELECTROSPUN CARBON NANOTUBE REINFORCED SILK FIBERS

(57) Abstract: Strong and tough synthetic fibrils of carbon nanotube and spider silk are provided. Methods for production of these synthetic fibrils and methods for their use in biomedical devices, including those requiring electroconductivity, and areas of blast and ballistic protection are also provided.

WO 2005/045122 A1